



***Montana Fish,
Wildlife & Parks***

**2012 Report on
Watercraft Inspection Stations**

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Aquatic Invasive Species Program

Montana Fish, Wildlife & Parks

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The Montana Fish, Wildlife & Parks (FWP) Aquatic Invasive Species (AIS) Program works to implement the AIS Management Plan through coordination and collaboration, prevention of new AIS introductions, early detection and monitoring, control and eradication, and outreach and education. The goal of the AIS Management Plan is to minimize the harmful impacts of AIS through the prevention and management of AIS into, within and from Montana. The report on prevention and outreach efforts in the Watercraft Inspection Program for 2012 follows.

Introduction

The Montana Fish, Wildlife & Parks (FWP) Watercraft Inspection Station program continues to grow, due to a significant boost in funding received during the 2011 legislative session, close coordination with our partner agencies of Montana Department of Agriculture (MDA) and Montana Department of Natural Resources and Conservation (DNRC), increased internal communication (especially with FWP's Enforcement Division and regional offices), partnerships with federal agencies, tribes and local groups, and increased buy-in and cooperation from the public.

FWP has been operating watercraft inspection stations since 2004. These checks have always been mandatory for anglers, and in 2011, a new Administrative Rule was adopted that made such inspections mandatory for all boaters. Having boaters stop at inspection stations is a key part of Montana's prevention strategy as it allows for the inspection of boats prior to launch and provides an important education component. Inspectors demonstrate how to properly inspect, clean and dry boats and equipment so the water user is educated and can do that every time they move between waterbodies. During the inspection, FWP administers a short interview to collect information on water user origin, previous and future water bodies visited, use of live bait, how often the user cleans their boat and equipment, and AIS awareness. This information gives the inspector insight into the risk of that vessel for carrying AIS, and is vital to the guidance of the FWP AIS Management Program.

Watercraft Inspection Locations

Each spring, inspection station sites are selected based on angler pressure, boater movement, estimated risk of AIS introduction, logistics, and input from other agencies and stakeholder groups. Based on this input, FWP shifted some resources from roving crews at popular water bodies to seasonally-permanent stations at border entry points during the 2012 field season. There were still several roving crews, but the majority of the 2012 effort was focused on eight border and strategic highway stations located at Hwy 2 Culbertson westbound, I-94 Wibaux westbound, I-90 Hardin northbound, I-15 Dillon northbound, I-90 Haugen eastbound, Hwy 37 Eureka westbound, Hwy 93 Ronan northbound, and Hwy 200 Clearwater Junction east and westbound. Roving Crews operated along the Swan Valley, Bitterroot Valley, and throughout the Bozeman area,

while two Helena-based crews covered the Missouri River, Holter, Hauser, Canyon Ferry, Fort Peck, and many other waterbodies along the hi-line and in the east. Montana Department of Agriculture also operated several watercraft inspection stations around their Eurasian Watermilfoil (EWM) Management Areas. Figure 1 shows the locations of stations and roving crews, and Figure 2 shows the total number of FWP watercraft inspection locations compared to previous years.

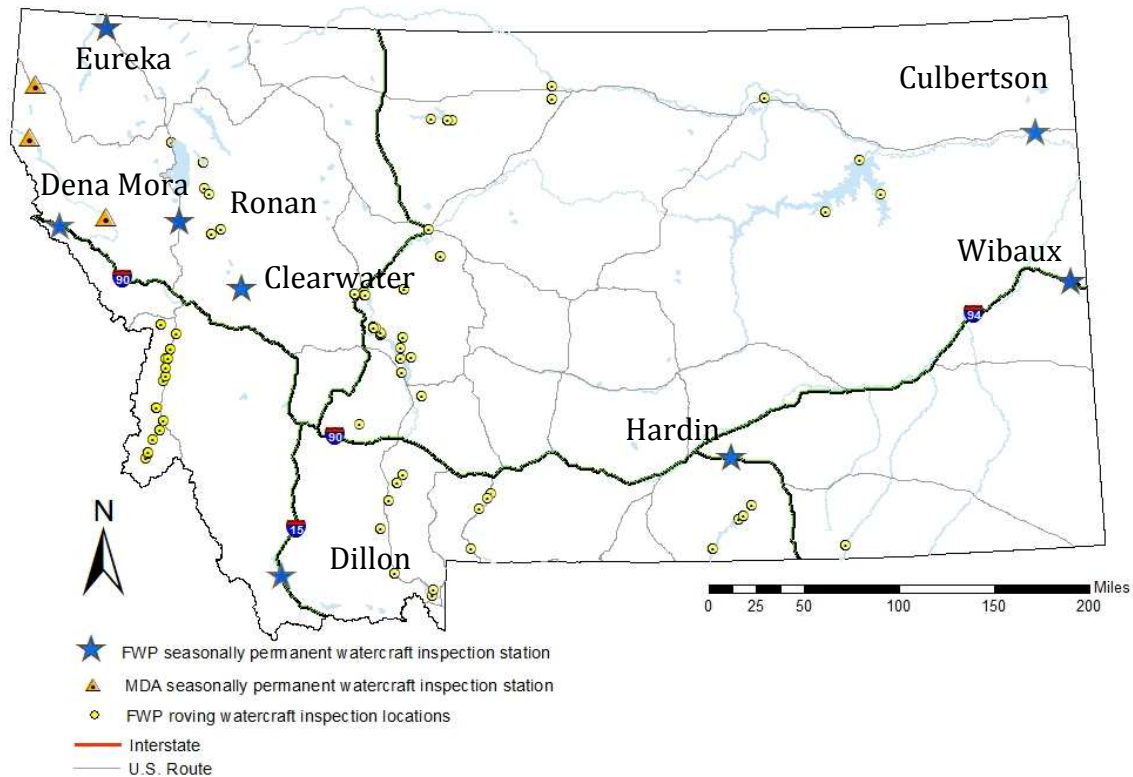


Figure 1. 2012 FWP & MDA Seasonally-Permanent and Roving Watercraft Inspection Stations

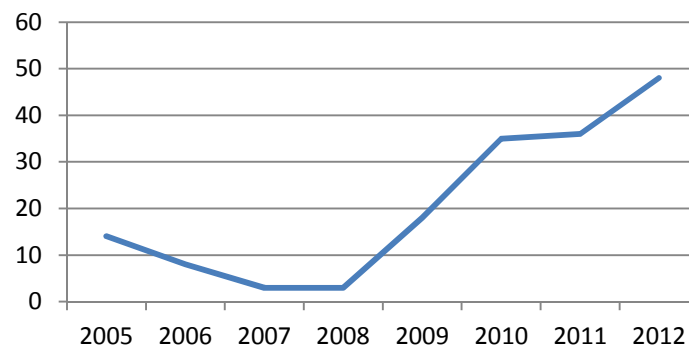


Figure 2. Number of Watercraft Inspection Locations per Year.

Watercraft Inspection Totals

FWP inspected 25,443 watercraft during the 2012 field season, which was a three-fold increase from 2011 (Figure 3). The higher numbers were due to increased staff and a longer inspection season, made possible by the increase in funding from the legislature and from funding partnerships. The lower numbers of inspections in 2011 are also a result of a record flood year on many state rivers, effectively keeping many boaters off the water until waters subsided. The majority of stations in 2012 operated for a sixteen-week period between May 14 and Labor Day, although some ended earlier or stayed open longer based on water user traffic and employee availability. The Ronan station operated the longest, staying open from mid-May until mid-October. All boat traffic and especially out-of state boat traffic dropped sharply after Labor Day (Figure 4).

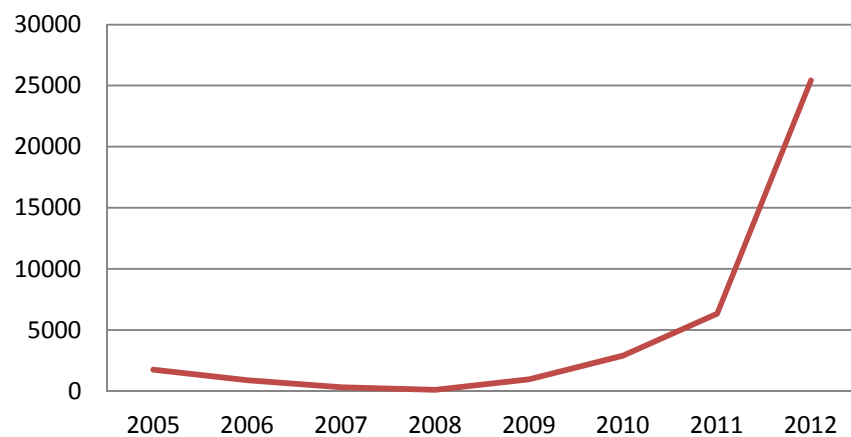


Figure 3. Number of Watercraft Inspected by Year

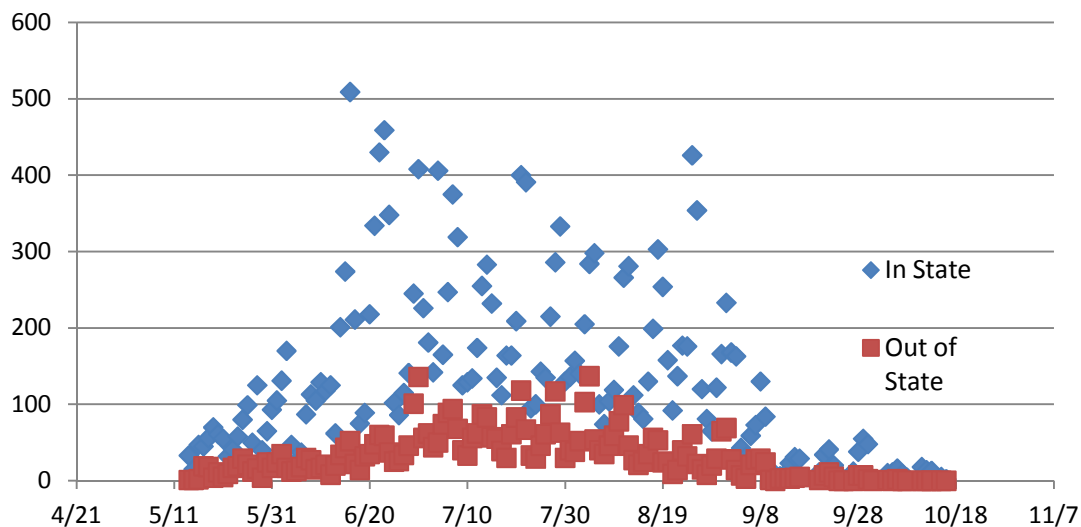


Figure 4. Number of In-State and Out-Of State Watercraft Inspections by Date in 2012

Other Watercraft Inspections

Besides inspections conducted at border, highway, and roving locations, FWP staff completed inspections of watercraft or equipment as needed outside of the mandatory inspection stations. Many of these inspections were of commercially-hauled watercraft that intended to launch in Montana. FWP is alerted to the entry of all commercially-hauled watercraft into the state through a Department of Transportation notification system, and all drivers carrying vessels that intend to launch in Montana waters receive a follow-up call and, if warranted, an inspection. Other times FWP receives calls from companies that are conducting work in or near waterbodies to ensure that equipment coming from out-of-state is not carrying AIS.

In May and June of 2012, one such inspection involved a wide variety of boats, barges, dredges, and equipment that were to be used in the clean-up of Mackinaw Bay on Whitefish Lake. Two FWP AIS staff members inspected each vessel and piece of equipment as they arrived on site, over the course of seven visits spanning two weeks. FWP personnel coordinated with the City of Whitefish, the Environmental Protection Agency (EPA) and BNSF consultants to conduct the inspections. In all, FWP staff inspected 28 different watercraft, and found dead zebra mussel shells on two barges from Lake Michigan. Marine mussels and barnacles were also found on a floating platform that had been used off the coast of California. All contaminated equipment was decontaminated according to FWP protocol.

Origin of Water Users

The origin of watercraft is important information that helps guide the placement of FWP watercraft inspection stations. As more resources are shifted to border stations, it is critical to know where high-risk boats are entering the state and at what times of the year. Those traveling from eastern states tend to come from areas where zebra mussels, quagga mussels, and EWM are prevalent, such as the Great Lakes. Those coming to Montana from western states such as Washington, Idaho and Oregon are likely to have been in EWM- infested waterbodies. Those from more southwestern states risk carrying quagga mussels from the Colorado River as well as EWM. The origin of in-state boats is important as well, as they might be coming from waters positive for New Zealand mudsnails (NZMS) or EWM and crew members can use that information to assess the potential AIS risk posed by individual boats.

Of the 25,443 boats that passed through inspection stations during the 2012 season, 6,664 were from out-of-state and 17,620 were from Montana. Figure 5 shows the origin and subsequent movement of surveyed water users and shows the great distances that people cover in order to fish and recreate in Montana. The map also illustrates that many people come to Montana from high-risk areas, as well as from areas with unknown AIS risks. The map in Figure 6 shows the density of the origin of surveyed water users. As expected, the majority of those surveyed were from in-state, followed by Washington, Alberta, Idaho, California, Utah, Wyoming, Oregon, Colorado, and British Columbia. For a complete breakdown of origin of water users by state, refer to Appendix A.

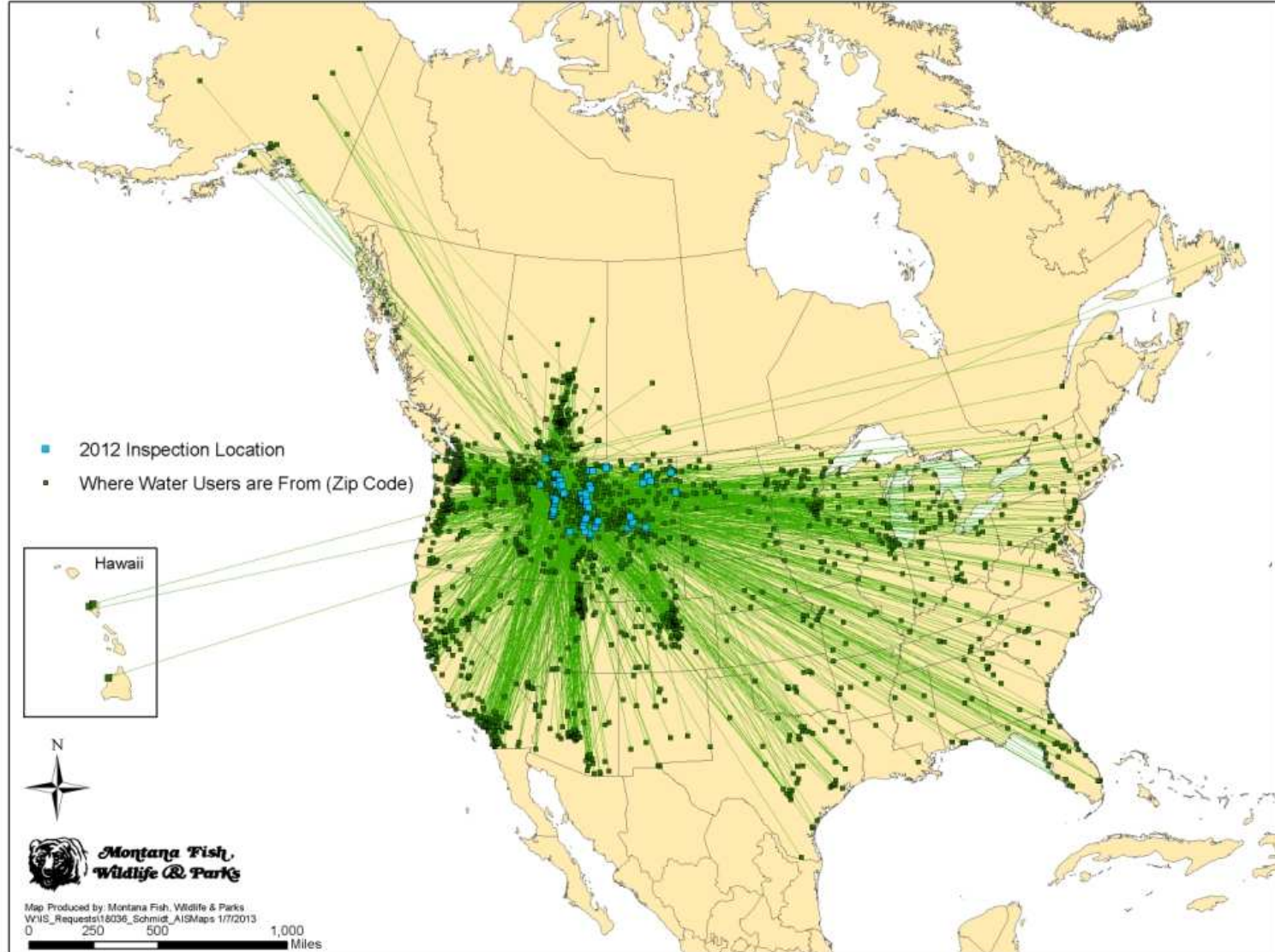


Figure 5. Water User Movement into Montana in 2012

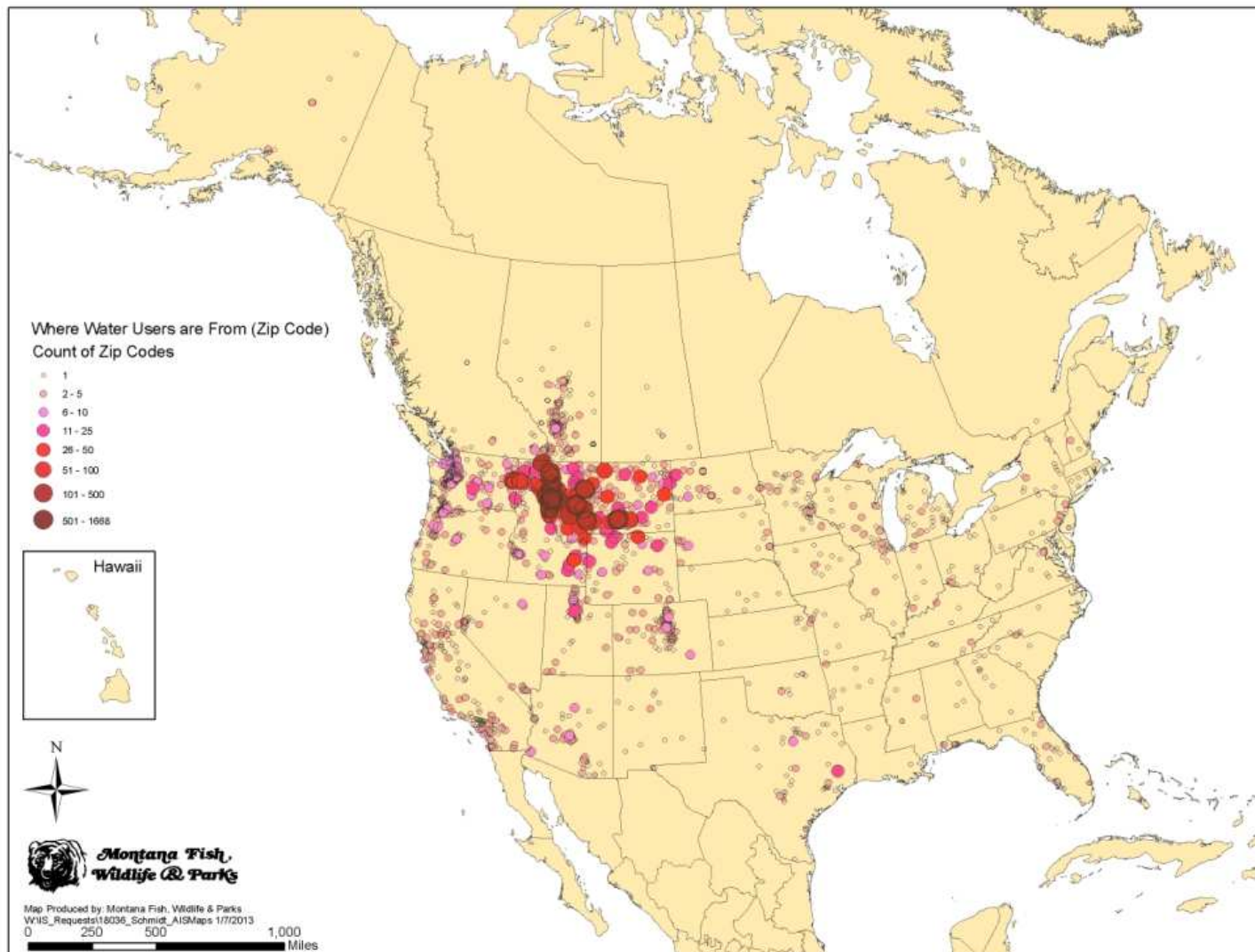


Figure 6. Montana Water User Origin in 2012

High Risk Boats

High-risk boats are motorized boats that have been in zebra or quagga mussel-positive states. These boats are more likely to be carrying adult or veliger mussels, therefore extra time and care is taken during inspection of these boats. Determining which stations see the most high-risk boats helps in cost-benefit analysis and in program guidance. The majority of watercraft from high-risk states entered the state at Dillon, followed by Wibaux, Culbertson, and Dena Mora. This data syncs with the boater movement data which shows water users moving between the Great Lakes and eastern Montana, between the Southwest and western Montana, and between the Pacific Northwest and Flathead Lake.

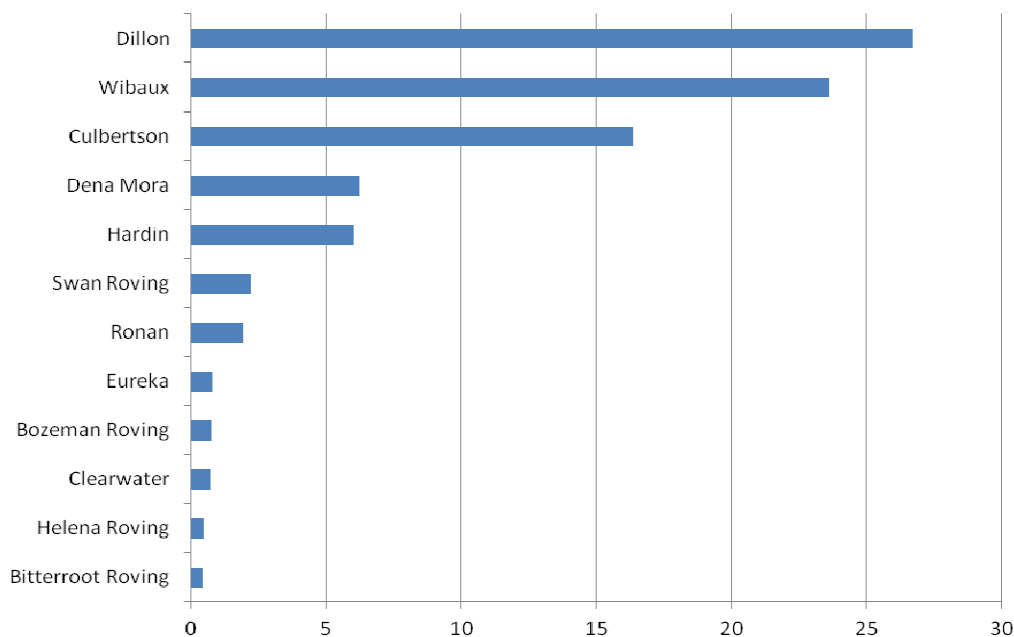


Figure 7. Percentage of High-Risk Vessels for Transporting Dreissenid Mussels by Station.

In-State and Out-of State Boats

Figure 8, which shows the percentage of in-state vs out-of-state boats at all seasonally permanent inspection stations, illustrates that the border stations see higher percentages of out-of-state boats than internal stations and roving crews. However, internal stations are still extremely important on the overall prevention strategy. First, many in-state boats recreate regularly in Dreissenid-, EWM-, and other AIS-positive waters and then return home to Montana. It is also common for Montana residents to purchase used boats from out-of state, particularly Minnesota. Internal stations provide another level of protection for in-state boats that might miss inspection at the border. Second, internal stations help prevent movement of AIS between Montana waters. In-state boats might be carrying EWM, NZMS, illegal bait/live fish, or an AIS that is not yet detected in Montana. There is often a delay between the time that an AIS becomes established in a waterbody and the time it is detected. Internal inspection stations minimize the potential spread of AIS among Montana waters.

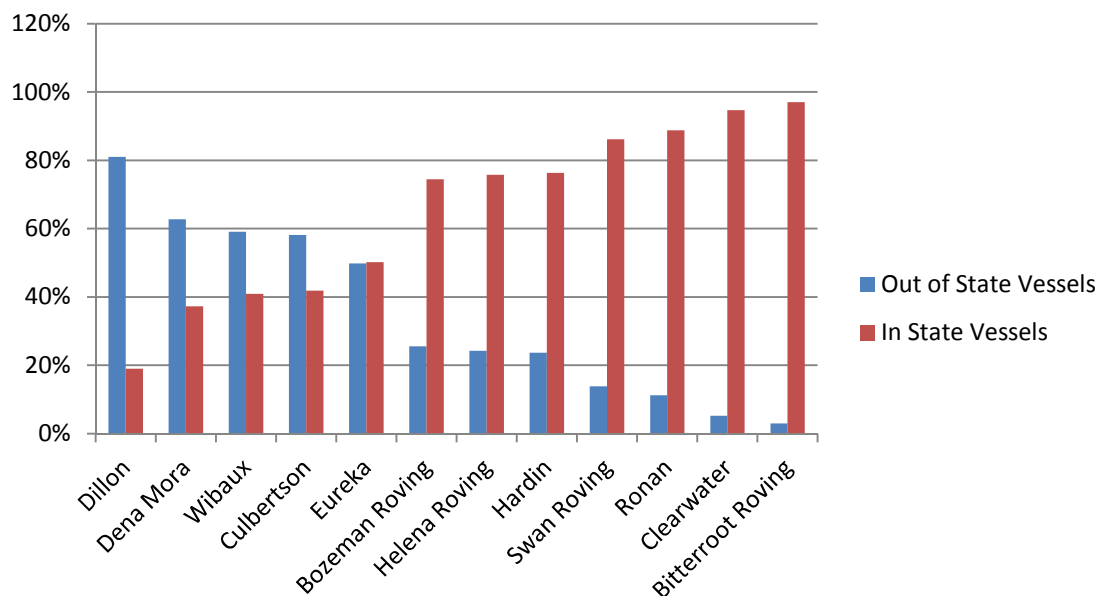


Figure 8. Percentage of In-State vs Out-of State Boats Seen at Inspection Locations.

AIS Observed

Out of the 25,443 boats that were inspected during the 2012 field season, 1% of the boats had some type of fouling (Figure 9).

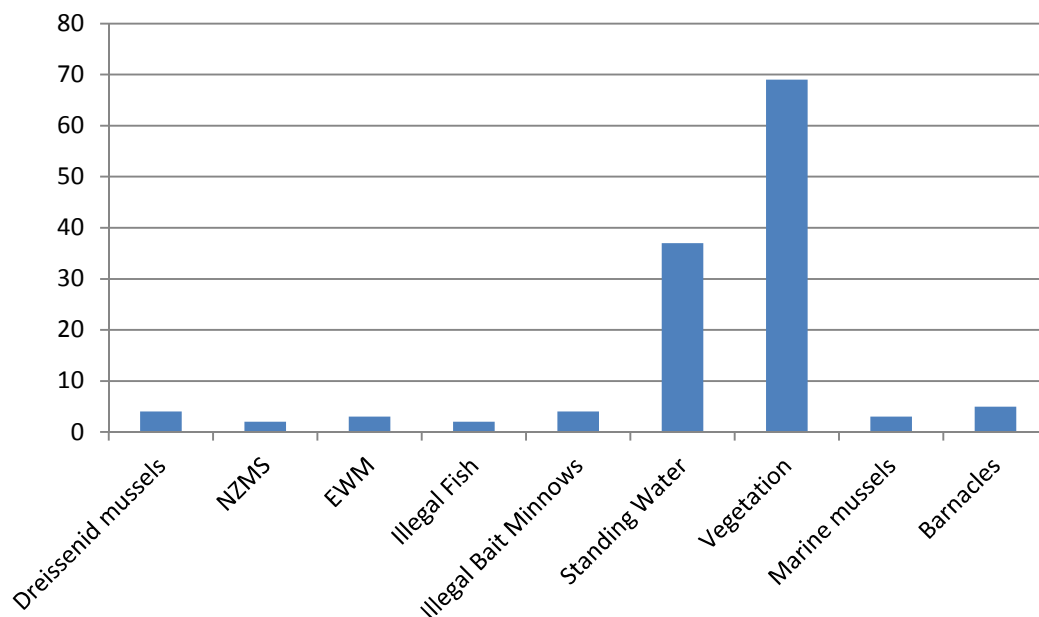


Figure 9. Specific AIS Found as Percentage of Total.

Vegetation was the most common type of boat fouling, followed by standing water (water in bilges, live wells, etc). Standing water is a concern because it can carry mussel larvae, disease-causing pathogens, and plant fragments. Dreissenid mussels were found on four boats over the course of the season, which amounts to 0.02% of boats. All of the mussels found on boats were dead. Two of the mussel-infested boats were intercepted at the Hardin station, one at the Dillon station, and one was intercepted at Como Lake by the roving Bitterroot Valley inspector. New Zealand mudsnails were found on one boat at Dena Mora, four cases of illegal minnows were found (two at Culbertson and two at Clearwater), and two cases of illegal live fish were found at Clearwater.

Any time a Dreissenid mussel-infested boat is found, protocol mandates that staff from the FWP AIS management team is dispatched and oversees the decontamination of the boat. If the boat is especially complex, marine mechanics are brought in to aid in the decontamination process. Boats are held at a secure facility during this time, and must pass a second inspection before they are allowed to launch in Montana waters. If a boat or piece of equipment is carrying vegetation or any other AIS besides mussels, the AIS is removed and the boat is decontaminated on site and released.

Live Bait Other Than Fish

Live bait other than fish was used by about 11% of water users inspected this year (Figure 10). Live bait may not be imported into Montana without authority from FWP. Live animals such as meal worms, red worms, night crawlers, leeches, maggots, crayfish, reptiles, amphibians, and insects may be used as bait on all waters not restricted to artificial flies and lures, but leeches may only be imported into Montana from FWP-approved leech dealers. Anglers who use leeches in Montana must have purchased them locally or have a bill-of-sale from an FWP-approved dealer. Leeches have the potential to transport Dreissenid veligers or pathogens on them or be in the water that they are sold in. Watercraft station inspectors ask anglers to turn over leeches if the angler cannot prove that they were legally obtained. FWP inspectors did not encounter any instances of anglers possessing illegal non-fish bait during routine watercraft inspections in 2012, but this has been an issue in previous years.

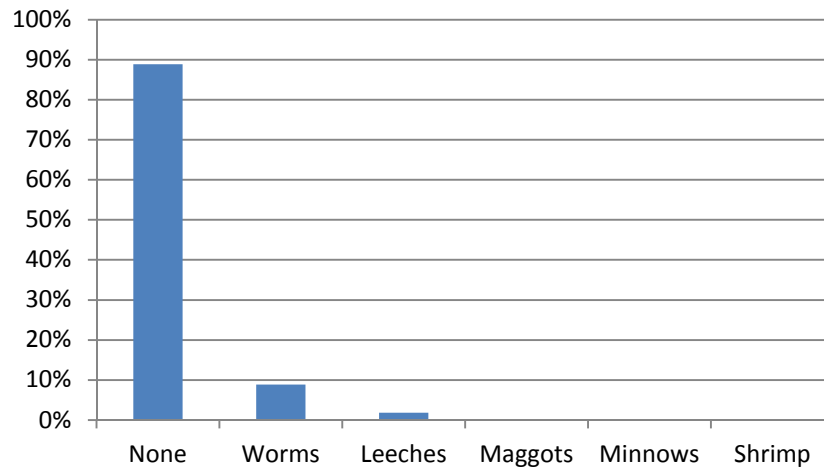


Figure 10. Percentage of Anglers Possessing Live Bait Other Than Fish at the Time of Inspection

Live Fish

It is illegal to transport live fish, including baitfish, into Montana without authorization from FWP, and it is unlawful to possess or transport live fish away from the body of water in which the fish were taken anywhere in the western fishing district. Live non-game fish may be used as bait in certain waters in the central and eastern fishing districts. These regulations exist in order to prevent the introduction of non-native fish into Montana's waters and also because the fish and the water they are transported in could be carrying disease-causing pathogens, weeds, snails, mussels, etc. In 2012 inspectors found four cases of illegal minnows (two at Culbertson and two at Clearwater) and two cases of illegal live fish at Clearwater. Standard protocol is for inspection staff to confiscate any illegal minnows or live fish and call TIP-MONT.

Boater Movement

Boater movement data is used to guide management activities including inspection station placement and establishing early detection and monitoring priorities. Certain AIS might already be present in the State but be undetected, which is one reason why FWP continues to operate roving crews at state water bodies. If AIS are found at a specific water body, boater movement data can help reveal what water body that AIS might also have been introduced into, and steps can be taken to stop that AIS from becoming established in the new water body.

Table 11. The top 40 water bodies that water users had recreated in the last 30 days.

Previous Water Body	Number of Vessels	Percentage
Flathead Lake, MT	2240	9.21%
Blackfoot River, MT	1663	6.84%
Salmon Lake, MT	1408	5.79%
Seeley Lake, MT	1017	4.18%
Missouri River, MT	986	4.05%
Bitterroot River, MT	893	3.67%
Clark Fork River, MT	877	3.61%
Holter Lake, MT	864	3.55%
Canyon Ferry Reservoir, MT	755	3.10%
Lake Koocanusa, MT	748	3.08%
Placid Lake, MT	644	2.65%
Tongue River Reservoir, MT	598	2.46%
Browns Lake, MT	569	2.34%
Hauser Lake, MT	470	1.93%
Swan Lake, MT	384	1.58%
Lake Como, MT	356	1.46%
Madison River, MT	296	1.22%
Bighorn River, MT	286	1.18%
Fort Peck Reservoir, MT	275	1.13%
Lake Mary Ronan, MT	266	1.09%
Flathead River, MT	255	1.05%
Georgetown Lake, MT	233	0.96%
Holland Lake, MT	223	0.92%
Yellowstone River, MT	195	0.80%
Lake Alva, MT	182	0.75%
Lake Coeur d'Alene, ID	174	0.72%
Yellowtail Dam, MT	164	0.67%
Noxon Reservoir, MT	162	0.67%
Big Hole River, MT	145	0.60%
Fresno Reservoir, MT	142	0.58%
Lindbergh Lake, MT	137	0.56%
Smith River, MT	136	0.56%
Lake Inez, MT	130	0.53%
Cooney Reservoir, MT	126	0.52%
Clearwater River, MT	121	0.50%
Whitefish Lake, MT	115	0.47%
Tiber Reservoir, MT	112	0.46%
Lake McDonald, MT	109	0.45%
Painted Rocks Reservoir, MT	102	0.42%
Dickey Lake, MT	101	0.42%

Table 12. The Top 40 Water Bodies That Surveyed Water Users Indicated as Their Destination Following Inspection.

Destination Water Body	Number of Vessels	Percentage
Flathead Lake, MT	3936	13.06%
Salmon Lake, MT	2074	6.88%
Blackfoot River, MT	1996	6.62%
Seeley Lake, MT	1932	6.41%
Lake Koocanusa, MT	1315	4.36%
Missouri River, MT	1226	4.07%
Holter Lake, MT	1135	3.76%
Placid Lake, MT	1046	3.47%
Canyon Ferry Reservoir, MT	933	3.09%
Clark Fork River, MT	762	2.53%
Browns Lake, MT	709	2.35%
Bitterroot River, MT	672	2.23%
Swan Lake, MT	537	1.78%
Lake Mary Ronan, MT	518	1.72%
Fort Peck Reservoir, MT	504	1.67%
Hauser Lake, MT	462	1.53%
Madison River, MT	424	1.41%
Flathead River, MT	414	1.37%
Yellowstone River, MT	327	1.08%
Holland Lake, MT	304	1.01%
Lake Alva, MT	286	0.95%
Lake Como, MT	258	0.86%
Tongue River Reservoir, MT	243	0.81%
Lake Inez, MT	239	0.79%
Glacier National Park, MT	234	0.78%
Whitefish Lake, MT	224	0.74%
Lindbergh Lake, MT	217	0.72%
Georgetown Lake, MT	206	0.68%
Bighorn River, MT	196	0.65%
Big Hole River, MT	194	0.64%
Lake McDonald, MT	177	0.59%
Tiber Reservoir, MT	171	0.57%
Clearwater River, MT	154	0.51%
Noxon Reservoir, MT	147	0.49%
Cooney Reservoir, MT	137	0.45%
Hungry Horse Reservoir, MT	136	0.45%
Lake Coeur d'Alene, ID	124	0.41%
Sophie Lake, MT	124	0.41%
Dickey Lake, MT	123	0.41%
Smith River, MT	121	0.40%

Awareness of AIS

Awareness of AIS has increased steadily over the course of the AIS Program, due to a widespread public outreach and education program that includes radio, TV, print, newspaper, schools, angler groups, and the watercraft stations themselves. In 2011, 17% of those surveyed were unaware of AIS, and in 2012 that number had shrunk to 7%. Of the 93% who were aware of AIS, the organism they were most knowledgeable about was the zebra mussel, followed by Eurasian watermilfoil, quagga mussels, and New Zealand mudsnails (Figure 13). The most common source of information was a previous check station, with nearly 50% of participants saying that they had passed through one previously (either this year or a prior year) and received information about AIS (Figure 14).

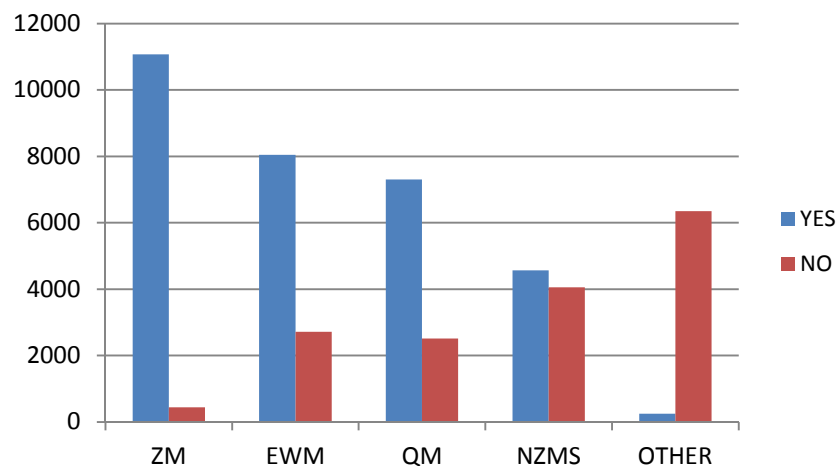


Figure 13. Water User Awareness of Specific AIS.

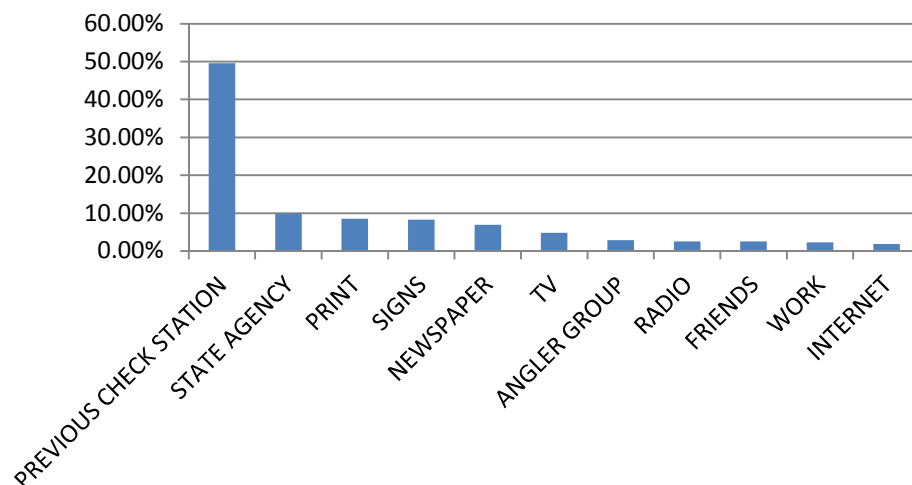


Figure 14. Source of AIS Knowledge.

Boat Condition and Cleaning Frequency

The overwhelming majority of boats (93%) were clean upon their arrival at an inspection station (Figure 15). Boaters and anglers were asked how frequently they clean their boats and equipment, and their responses were grouped into “sufficient” if they cleaned after every use or in-between water bodies, “insufficient” if they cleaned once per week, once per month, once per year, every other trip, etc., and their answer was categorized as “never” if they never cleaned or cleaned less than once a year (Figure 16). This data suggests that while most people are aware of AIS, they still are not cleaning their boats and equipment often enough to prevent AIS spread. These percentages are unchanged from 2011.

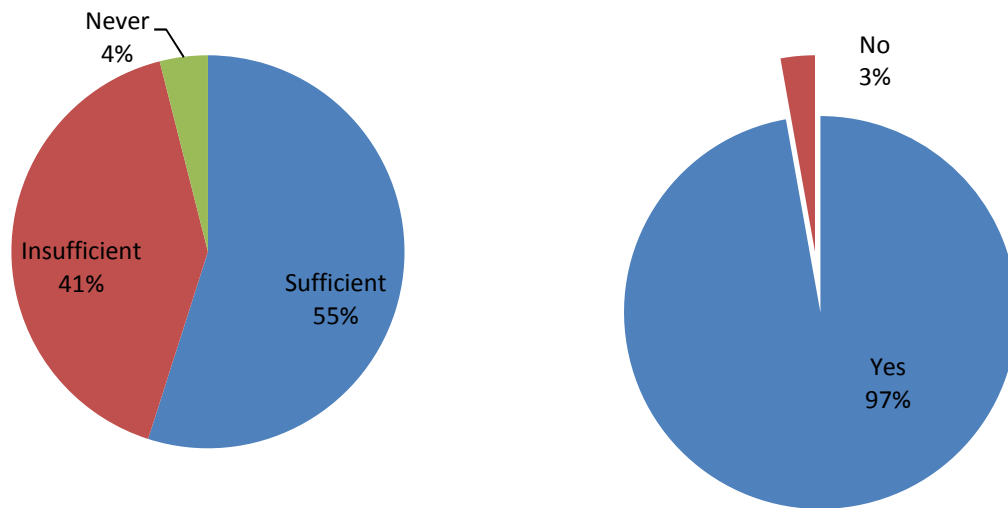


Figure 15 (Left). Percentage of Water Users with Boats Cleaned, Drained, and Dried Upon Inspection.

Figure 16 (Right). Level of Cleaning Done to Boats and Equipment by Water Users.

Summary

The 2012 watercraft inspection program was very successful. The vast majority of recreationists who were stopped and interviewed were highly supportive of the program and of FWP's efforts to halt the spread of AIS. Knowledge and awareness of the issues surrounding AIS is steadily rising. Unfortunately, a segment of the population does not recognize the threat that AIS pose to Montana and the surrounding region. Outreach efforts need to be continued until water users not only know about the problem, but change their behavior and wash and clean their boats and equipment each and every time they move between water bodies. Also, the occurrences of illegal minnows and illegal live fish show that these important fishing regulations are not always followed. The AIS program will attempt to address this area of weakness in future strategies.

FWP looks forward to continued successful collaboration on AIS issues with MDA, DNRC, and other partner agencies and groups.

Appendix A

Table 17. Full list of states in order of visitation to Montana by surveyed water users

State of Origin	Number of Water Users	Percent
MT	20065	80.46%
WA	1094	4.39%
AB	797	3.20%
ID	762	3.06%
CA	264	1.06%
UT	251	1.01%
WY	245	0.98%
OR	244	0.98%
CO	199	0.80%
BC	132	0.53%
AZ	116	0.47%
ND	87	0.35%
TX	82	0.33%
MN	67	0.27%
NV	60	0.24%
FL	46	0.18%
WI	34	0.14%
SD	33	0.13%
AK	30	0.12%
MI	28	0.11%
IL	23	0.09%
IA	18	0.07%
IN	18	0.07%
NM	17	0.07%
NY	16	0.06%
OH	16	0.06%
AR	15	0.06%
OK	14	0.06%
Canada (unspecified)	13	0.05%
GA	12	0.05%
SK	12	0.05%
NH	11	0.04%
VA	11	0.04%
MO	10	0.04%
NE	9	0.04%
PA	9	0.04%
TN	9	0.04%
AL	8	0.03%
KS	7	0.03%
MS	7	0.03%

NC	6	0.02%
SC	6	0.02%
ON	5	0.02%
CT	4	0.02%
MD	4	0.02%
NJ	4	0.02%
KY	3	0.01%
LA	3	0.01%
ME	2	0.01%
VT	2	0.01%
WN	2	0.01%
DE	1	0.00%
MA	1	0.00%
NF	1	0.00%
PQ	1	0.00%
WV	1	0.00%
Total	24937	